REMARKS

Interview request

Applicants respectfully request a telephonic interview after the Examiner has reviewed the instant response and amendment. Applicants request the Examiner call Applicants' representative at 858 720 5133.

Status of the Claims

Pending claims

Claims 8 to 31 and 33 to 49 are pending; and claims 15 to 18 have been withdrawn from consideration. Thus, claims 8 to 14 and 19 to 31 and 33 to 49 are pending and under consideration.

Claims added and canceled

Claims 50 to 66 added and claims 42, 43, 45 and 47, are canceled without prejudice or disclaimer. Thus, after entry of the instant amendment, claims 8 to 14, 19 to 31, 33 to 41, 44, 46, 48 and 49 to 66, will be pending and under consideration.

Outstanding Rejections

Claims 21 to 23, 26, 30, 38 and 39 stand rejected as allegedly failing to comply with the requirements of 35 U.S.C. §112, second paragraph. Claims 8 to 11, 13, 19, 23 to 31 and 33 to 48, stand rejected as allegedly failing to comply with the requirements of section 112, first paragraph. Claims 8 to 13, 19, 23, 26 to 31 and 33 to 40, are rejected under 35 USC §102(b) as allegedly anticipated by Apajalahti, et al., GB 2316082. Claims 8 to 13, 19, 23, 26 to 31 and 33 to 40, are rejected under 35 USC §102(e) as allegedly anticipated by Cheng, et al., U.S. Patent No. 5,939,303. Claim 25 is rejected under 35 USC §103(a) as allegedly unpatentable over Cheng and the knowledge of one of skill in the art. Claims 24 and 25 are rejected under 35 USC §103(a) as allegedly unpatentable over Apajalahti in view of Cheng. Claims 42, 43, 45 and 47 are rejected under 35 USC §103(a) as allegedly unpatentable over Cheng in view of Greiner et al. (1993) Archives of Biochemistry and Biophysics 303:107-113. Claims 42, 43, 45 and 47 are rejected under 35 USC §103(a) as allegedly unpatentable over Apajalahti in view of Greiner (see paragraph 25, pages 13 to 14, of the OA).

Applicants respectfully traverse all outstanding rejections of the claims.

Restriction Requirement

The Examiner required restriction under 35 U.S.C. §121 to one of the following inventions: Group I. Claims 8-14 and 19-41, drawn to food and feed comprising a phytase; Group II. Claims 15-16, drawn to a method for treating a feed with a phytase to reduce inorganic phosphorus; and, Group III. Claims 17-18, drawn to a method for supplementing the diet of an animal by feeding a composition comprising a phytase to said animal. Applicants elected Group I, without traverse.

Applicants respectfully request that, after the elected product claims have been found to be allowable, all withdrawn process (methods) claims which depend from or otherwise include all of the limitations of the allowed product claims be rejoined. MPEP §821.04; pgs 800-63, 64, 8th ed., Rev. 2, May 2004; In re Ochiai, 37 USPQ2d 1127 (Fed. Cir. 1995); In re Brouwer, 37 USPQ2d 1663 (Fed. Cir. 1995); 1184 OG 86, 3/26/96.

Support for the Claims

The specification sets forth an extensive description of the invention as set forth in the pending and amended claims. For example, support for claims directed to a feed comprising a phytase made by a method comprising providing a nucleic acid derived from an *E. coli*, wherein the nucleic acid encodes a polypeptide having a phytase activity, and methods for treating a feed comprising a phytate to lower the phytate content in the feed and increasing the amount of inorganic phosphorous in the feed comprising providing a nucleic acid derived from an *E. coli*, can be found, inter alia, in lines 1 to 7 of column 3; lines 19 to 21 of column 4; lines 24 to 28, column 14; of priority document USPN 5,876,997 (USSN 08/910,798); see also page 20, lines 21 to 24; page 23, lines 11 to 12, and lines 30 to 32, of the instant application's specification. Support for claims directed to compositions made by methods comprising in vitro transcription can be found, inter alia, on page 16, lines 14 to 15.

Support for claims encompassing phytases lacking a signal peptide or having a signal peptide (i.e., a signal sequence or a leader sequence) can be found, inter alia, on page 68, lines 14 to 15, and lines 26 to 30, respectively. Support for claims encompassing or methods using phytases lacking the signal peptide or having the signal peptide of SEQ ID NO:2, which is amino acid

residues 1 to 22, can be found, inter alia, on page 68, lines 30 to 33, where the specification notes that defining signal sequences which may be used within the context of the invention is disclosed in the art. See also page 28, lines 20, where the specification describes the optional embodiment wherein leader or secretory sequences are fused to a mature enzyme. The specification also expressly states "[t]he polynucleotide which encodes for the mature enzyme of FIG. 1 (e.g., SEQ ID NO:2) may include, but is not limited to: only the coding sequence for the mature enzyme; the coding sequence for the mature enzyme and additional coding sequence such as a leader sequence or a proprotein sequence; the coding sequence for the mature enzyme (and optionally additional coding sequence) and non-coding sequence, such as introns or non-coding sequence 5' and/or 3' of the coding sequence for the mature enzyme" (emphasis added), on page 31, lines 10 to 16. Support can also be found, inter alia, from line 30, page 53 to line 11, page 54, where the specification states, e.g., "... the coding sequence for the mature enzyme may be fused in the same reading frame to a polynucleotide sequence which aids in expression and secretion of an enzyme from a host cell, for example, a leader sequence which functions to control transport of an enzyme from the cell (emphasis added)."

Support for claims encompassing recombinant phytases expressed in various cell, including various yeast cells and bacteria, such as various gram positive bacteria, can be found, inter alia, on page 58, lines 16 to 21, and page 59, lines 23 to 28.

Support for claims encompassing recombinant phytase-encoding nucleic acids in cloning vehicles comprising bacteriophages, can be found, inter alia, on page 57, lines 10 to 11.

Accordingly, no new matter has been added by way of these amendments.

Specification - Trademarks

The Office notes that use of trademarks in the specification should include capitalization of the mark. The instant amendment addresses this issue.

Regarding the Office's reference to the name of companies that manufactured products whose marks were referenced in the instant specification, Applicants respectfully note that it is the mark, not the name of the company, that need to capitalized. As noted in MPEP §608.01(v): *Trademark:* a word, letter, symbol, or device adopted by one manufacturer or merchant and used to identify and distinguish his or her product from those of others. It is a proprietary word, letter,

symbol, or device pointing distinctly to the product of one producer. Trademarks should be identified by capitalizing each letter of the mark (in the case of word or letter marks) or otherwise indicating the description of the mark (in the case of marks in the form of a symbol or device or other nontextual form). Thus, it is the name of the product, not the manufacturer or merchant, that needs to capitalized in the specification. MPEP §608.01(v), pg 600-87, 8th ed., Rev. 2, May 2004.

Priority

As noted in paragraph 3, page 3, of the OA, the Office - by doing only a sequence search - found SEQ ID NO:2 first disclosed in USSN 09/259,214, filed March 01, 1999 (now USPN 6,110,719). However, SEQ ID NO:2 was disclosed in the first filed priority document USSN 08/910,798, filed August 13, 1997 (now USPN 5,876,997), in Figure 1A and 1B (copy enclosed). Accordingly, SEQ ID NO:2 and the instant claimed invention can properly claim priority to parent application USSN 08/910,798 (USPN 5,876,997), filed August 13, 1997.

Information Disclosure Statements

As noted in paragraph 4, page 3, of the OA, Applicants thank the Examiner for expressly considering and initialing the Information Disclosure Statements (IDSs) and Forms PTO-1449, submitted September 20, 2002, September 27, 2002, February 20, 2003, March 04, 2003, June 02, 2003, February 17, 2004 and September 15, 2004, as noted in paragraph 4, page 3, of the OA.

Regarding reference ADD of the IDS filed September 20, 2002; this reference is resubmitted herein in a supplementary IDS, including the corresponding database and publication date, for consideration by the Examiner.

Applicants also respectfully request the Examiner consider and initial references ACC and AEE also from the IDS filed September 20, 2002; and reference N (GB 2316082) from the IDS filed June 02, 2003.

Claim Objections

Claims 12 and 49 are objected to for reasons set forth in paragraph 5, page 3, of the OA. The instant amendment addresses this issue.

Issues under 35 U.S.C. §112, second paragraph

Claims 21 to 23, 26, 30, 38 and 39 stand rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The instant amendment addresses the 35 U.S.C. §112, second paragraph issues discussed in the Office action (see paragraphs 6 to 14, pages 3 to 5 of the OA).

Claim 21 is alleged to be indefinite for reasons set forth in paragraph 8, page 4, of the OA. The instant amendment addresses this issue, see amended claim 19, from which claims 20 and 21 depend. The Office noted that one of skill in the art would understand that the term "food supplement" refers to both animals and humans. Indeed, the express intention of the instant disclosure concurs with the scientific definition of the term "animal," where one of skill in the art would unambiguously understood the term "animals" to include both human and non-human animals.

Regarding paragraphs 10, 13 and 14, while Applicants have amended the claims as suggested by the Examiner, they wish to clarify that their original use of the term "comprises" was proper, and that they used the terms "comprises" or "comprising" as open-ended terms. The transitional terms "comprising" and "comprises" (and other comparable terms, e.g., "containing," and "including") are "open-ended" - they cover the expressly recited subject matter, alone or in combination with unrecited subject matter. See, e.g., Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("'Comprising' is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim."); Ex parte Davis, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves the "claim open for the inclusion of unspecified ingredients even in major amounts"). See also MPEP §2111.03, pg 2100-52, MPEP §2163, section II.A.1., pg 2100-169, 8th ed, Rev. 2, May 2004. See also Invitrogen Corp. v. Biocrest Mfg., 327 F.3d 1364; 66 U.S.P.Q.2D (BNA) 1631, 1634 (Fed. Cir. 2003), describing use of the term "comprises" as an open-ended term.

For example, in claim 8, "wherein the nucleic acid comprises a cloning vehicle", one skilled in the art would understand that the claim is referring to two compositions: first, the nucleic

acid as as the intended insert for the cloning vehicle, and second, a cloning vehicle without an insert.

Issues under 35 U.S.C. §112, first paragraph

Written Description: New Matter

As noted in paragraph 16, pages 5 to 6, of the OA, it is alleged that claims 9, 26, 29, 30, 34, 35 and 39 fail to comply with the written description requirement of section 112, first paragraph, because they subject matter not described in the specification in such as way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention – this is a new matter rejection.

The Examiner, however, did note that support was found for claims directed to a feed comprising a phytase wherein said phytase is encoded by a nucleic acid which is expressed in a cell, including *E. coli*, *B. subtilis* and *Saccharomyces cerevisiae*.

Regarding the alleged new matter, noting paragraph 16, page 6, of the OA, it was alleged that there is no support in the specification for a feed comprising a phytase, wherein the phytase is encoded by a nucleic acid:

(1) expressed *in vitro* in a cell lysate (claims 9 and 26);

(2) expressed in any specific yeast, except *Saccharomyces cerevisiae*;

(3) expressed in any gram-positive bacteria, except *B. subtilis*; or

(4) contained in a bacteriophage.

Regarding (1), and claims 9 and 26, support for claims directed to a feed comprising a phytase, wherein the phytase is encoded by a nucleic acid, can be found, inter alia, on page 16, lines 6 to 17 (paragraph [0078] in U.S. publication 20030049815):

> By "isolated nucleic acid" is meant a nucleic acid, e.g., a DNA or RNA molecule, that is not immediately contiguous with the 5' and 3' flanking sequences with which it normally is immediately contiguous when present in the naturally occurring genome of the organism from which it is derived. The term thus describes, for example, a nucleic acid that is incorporated into a vector, such as a plasmid or viral vector; a nucleic acid that is incorporated into the genome of a heterologous cell (or the genome of a homologous cell, but at a site different from that at which it naturally occurs); and a nucleic acid

> that exists as a separate molecule, e.g., a DNA fragment produced by PCR amplification or restriction enzyme digestion, or an RNA molecule produced by in vitro transcription. The term also describes a recombinant nucleic acid that forms part of a hybrid gene encoding additional polypeptide sequences that can be used, for example, in the production of a fusion protein. (emphasis added)

What is conventional or well known to one of ordinary skill in the art need not be disclosed in detail. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d at 1384, 231 USPQ at 94. If a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. See, e.g., Vas-Cath, 935 F.2d at 1563, 19 USPQ2d at 1116; Martin v. Johnson, 454 F.2d 746, 751, 172 USPQ 391, 395 (CCPA 1972) (stating "the description need not be in *ipsis verbis* [i.e., "in the same words"] to be sufficient"). See also MPEP §2163, pg 2100-172, 8th ed., Rev. 2, May, 2004. The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. MPEP 2163.02, pg 2100-178, 8th ed., Rev. 2, May, 2004.

One of ordinary skill in the art would have understood that an RNA molecule produced by an *in vitro* transcription system is analogous to expression of the nucleic acid *in vitro* in a cell lysate (e.g., rabbit reticulocyte lysates were a commonly used system). However, merely to expedite prosecution, claims 9 and 26, are amended to expressly use the phrase "*in vitro* transcription".

The Office also alleged that there is no support in the specification for a feed comprising a phytase, wherein the phytase is encoded by a nucleic acid expressed, inter alia, *in vitro* in a cell lysate, in any specific yeast, except *Saccharomyces cerevisiae*, or in any gram-positive bacteria, except *B. subtilis*. However, Applicants respectfully maintain that the specification supports use of host cells known in the art, e.g., on page 58, lines 16 to 21, stating "[t]he selection of an appropriate host is deemed to be within the scope of those skilled in the art from the teachings herein." As noted above, if a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. The description need not be in *ipsis verbis* ,i.e., "in the same words", to be sufficient. Thus, Applicants respectfully aver the

specification supports claims encompassing use of any yeast host cell, e.g., wherein the yeast cell is a *Schwanniomyces* sp., a *Pichia* sp. yeast cell, a *Hansenula* sp. yeast cell, a *Candida* yeast cell or a *Torulopsis* sp. yeast cell, or, wherein the yeast is a *Schizosaccharomyces pombe*, a *Schwanniomyces occidentalis*, a *Pichia pastoris* or a *Hansenula polymorpha*. Applicants respectfully aver the specification supports claims encompassing use of any gram positive bacteria, e.g., a *Lactobacillus* sp. or a *Lactococcus* sp., or where the gram positive bacteria is a *Lactobacillus gasseri*, a *Lactococcus lactis*, or a *Lactococcus cremoris*.

Similarly, support for claims encompassing recombinant phytase-encoding nucleic acids in cloning vehicles comprising bacteriophages, can be found, inter alia, on page 57, lines 10 to 11, where the specification states that polynucleotides of the invention can be included in any one of a variety of expression vectors, including, inter alia, "... bacterial plasmids; phage DNA; baculovirus; yeast plasmids; vectors derived from combinations of plasmids and phage DNA, virla DNA ... However, any other vector may be used as long as it is replicable and viable in the host."

Accordingly, because the claims are sufficiently supported in the specification to satisfy the written description requirement of section 112, first paragraph, the "new matter" rejection under 35 U.S.C. §112, first paragraph, can be properly withdrawn.

Issues under 35 U.S.C. §112, first paragraph

Written Description

As noted in paragraph 17, pages 6 to 8, of the OA, it is alleged that claims 8 to 11, 13, 19, 23 to 31 and 33 to 48, fail to comply with the written description requirement of section 112, first paragraph, because the subject matter is not described in the specification in such as way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

In particular, it is alleged, inter alia, that the specification must describe a representative number of species of the genus, or describe structural elements required in various species (e.g., variations of SEQ ID NO:2) of the genus of phytases used in the claimed feeds of the invention to satisfy the written description requirement of section 112, first paragraph. The Office's rejection is

directed to written description standards for claims directed to or using novel phytases, where the specification for the first time is describing a novel phytase.

However, in contrast, with the exception of SEQ ID NO:2 (whose sequence is expressly described), the feeds of the invention encompass the use known *E. coli* phytases. What is conventional or well known to one of ordinary skill in the art need not be disclosed in detail. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d at 1384, 231 USPQ at 94. MPEP §2163, pg 2100-172, 8th ed., Rev. 2, May, 2004. The *E. coli* phytase enzymes used in the feeds of the invention that are at issue here are well known in both sequence and function. Similarly, the second component of the novel combination of compounds of the claimed invention - animal feeds – are also well known.

Re-analyzing and reporting known *E. coli* phytase enzyme sequences and structural elements in the specification does not add descriptive substance. For example, the Office's allegation that bacterial phytase structural elements must be re-iterated in the specification (see, e.g., pages 7 to 8, paragraph 17, of the OA) does not add descriptive substance to the claimed invention. The specification does not need to reiterate the structure, formula or chemical names of the known *E. coli* phytases used in the feeds of the invention, or the nucleotide sequences that encode, them to meet the written description requirement of section 112. That this is the legal standard for using known biological sequences in meeting the written description requirement was recently reiterated by the Federal Circuit in Capon v Eshhar, on August 12, 2005 (Capon v. Eshhar, 2005 U.S. App. LEXIS 16865 (Fed. Cir. 2005)). Accordingly, the rejection under the written description requirement of section 112, can be properly withdrawn.

Issues under 35 U.S.C. §112, first paragraph

Enablement

As noted in paragraph 18, pages 8 to 9, of the OA, it is alleged that claims 8 to 11, 13, 19, 23 to 31 and 33 to 48, fail to comply with the enablement requirement of section 112, first paragraph, because the specification fails to provide enablement for a feed or food composition comprising any bacterial phytase or any derivative of a bacterial phytase. The Office's rejection is directed to enablement requirements for claims directed to or using novel phytases, where the specification for the first time is describing a novel phytase.

However, in contrast, with the exception of SEQ ID NO:2 (whose sequence is expressly described), the feeds of the invention encompass the use known *E. coli* phytases. Similarly, the second component of the novel combination of compounds of the claimed invention - animal feeds – are also well known. A patent need not teach, and preferably omits, what is well known in the art. In re Buchner, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987); and Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984). Both *E. coli* phytases and animal feeds and foods were well known in the art at the time of the invention. Accordingly, the rejection under the enablement requirement of section 112, can be properly withdrawn.

Issues under 35 U.S.C. §102

Apajalahti, et al., GB 2316082

Claims 8 to 13, 19, 23, 26 to 31 and 33 to 40, are rejected under 35 USC §102(b) as allegedly anticipated by Apajalahti, et al., GB 2316082, published February 18, 1998 (hereinafter "Apajalahti"). However, for reasons noted above, SEQ ID NO:2 and the instant claimed invention can properly claim priority to parent application USSN 08/910,798 (USPN 5,876,997), filed August 13, 1997. Thus, Apajalahti is not prior art to the instant claimed invention. Accordingly, the rejection of the claims under 35 U.S.C. §102(b) can be properly withdrawn.

Cheng, et al., U.S. Patent No. 5,939,303

Claims 8 to 13, 19, 23, 26 to 31 and 33 to 40, are rejected under 35 USC §102(e) as allegedly anticipated by Cheng, et al., U.S. Patent No. 5,939,303, filed November 6, 1996, issued August 17, 1999 (hereinafter "Cheng") (see paragraph 20, page 11, of the OA).

The legal standard for anticipation under 35 U.S.C. §102 is one of strict identity. To anticipate a claim, a single prior source must contain each and every limitation of the claimed invention. In re Paulson, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994)(citing In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)). MPEP §2131; pg 2100-73, 8th ed., Rev. 2, May 2004.

After entry of the instant amendment: claim 8 is directed to feeds comprising a phytase made by a method comprising, inter alia, the step of providing a nucleic acid derived from an *E. coli*, wherein the nucleic acid encodes a polypeptide having a phytase activity; claim 13 is directed to feeds comprising a recombinant phytase, wherein the recombinant phytase is encoded by a nucleic acid derived from an *E. coli*; claim 15 is directed to methods for treating a feed comprising a phytate, where the method comprises, inter alia, the follow step of providing a recombinant phytase encoded by a nucleic acid derived from an *E. coli*; claim 24 s directed to drinkable foodstuffs comprising a recombinant phytase, wherein the recombinant phytase is encoded by a nucleic acid derived from an *E. coli*.

Cheng does not teach or suggest isolating or using a phytase from an *E. coli* for any reason (note: Cheng only uses *E. coli* as a host cell for expressing phytases from other sources). Accordingly, Cheng is not a single prior source that contains each and every limitation of the claimed invention, and the rejection of the claims under 35 U.S.C. §102(e) can be properly withdrawn.

Issues under 35 U.S.C. §103(a)

Cheng, et al., U.S. Patent No. 5,939,303

Claim 25 is rejected under 35 USC §103(a) as allegedly unpatentable over Cheng and the knowledge of one of skill in the art (see paragraph 23, page 12, of the OA).

The Office notes that Cheng does not teach a drinkable foodstuff comprising juice and a phytase. However, Applicants respectfully submit that Cheng is further defective in that it does not teach isolating or using a phytase from an *E. coli* for any reason, and the state of the art at the time of the invention does not cure this defect.

In fact, Cheng teaches away from the instant invention – making and using *E. coli* phytases in feeds and foods, because they only used *E. coli* as expression hosts for exogenous (non-*E. coli*) phytases, most likely choosing *E. coli* as a host cell because they did not expect *E. coli* to express an endogenous phytase (an *E. coli* expressing endogenous phytase would be a bad choice as a host cell for exogenous phytase expression, e.g., because endogenous activity would contaminate assays looking for heterologous phytase activity). Accordingly, the rejection of the claims under 35 U.S.C. §103(a) can be properly withdrawn.

Apajalahti in view of Cheng

Claims 24 and 25 are rejected under 35 USC §103(a) as allegedly unpatentable over Apajalahti in view of Cheng (see paragraph 24, pages 12 to 13, of the OA).

However, as noted above, for reasons noted above, SEQ ID NO:2 and the instant claimed invention can properly claim priority to parent application USSN 08/910,798 (USPN 5,876,997), filed August 13, 1997. Thus, Apajalahti is not prior art to the instant claimed invention. Accordingly, the rejection of the claims under 35 U.S.C. §103(a) using Apajalahti as a primary reference can be properly withdrawn.

Cheng in view of Greiner

Claims 42, 43, 45 and 47 are rejected under 35 USC §103(a) as allegedly unpatentable over Cheng in view of Greiner et al. (1993) Archives of Biochemistry and Biophysics 303:107-113 (hereinafter "Greiner") (see paragraph 25, pages 13 to 14, of the OA).

The Office notes that Cheng does not teach an *E. coli* phytase. Applicants also respectfully submit that Cheng is further defective in that it does not teach using an *E. coli* phytase in a feed or food.

The Office cites Greiner for teaching *E. coli* phytases. However, the Office also notes that Greiner does not teach any phytase comprising foods or feeds. Applicants also respectfully submit that Greiner does not teach or suggest using any *E. coli* phytase in any food or feed. Accordingly, Greiner cannot cure the defect in Cheng. Because neither Cheng nor Greiner teach or suggest using any *E. coli* phytase in any food or feed, a prima facie case of obviousness has not been made and the rejection under section 103(a) can be properly made.

Apajalahti in view of Greiner

Claims 42, 43, 45 and 47 are rejected under 35 USC §103(a) as allegedly unpatentable over Apajalahti in view of Greiner (see paragraph 25, pages 13 to 14, of the OA).

However, as noted above, for reasons noted above, SEQ ID NO:2 and the instant claimed invention can properly claim priority to parent application USSN 08/910,798 (USPN 5,876,997), filed August 13, 1997. Thus, Apajalahti is not prior art to the instant claimed invention.

Accordingly, the rejection of the claims under 35 U.S.C. §103(a) using Apajalahti as a primary reference can be properly withdrawn.

Obviousness-like double patenting

USPN 6,110,719

Claims 8 to 14, 19, 20, 23, 26 to 31 and 33 to 46, stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 6 to 7 of U.S. Patent No. (USPN) 6,110,719, issued from 09/259,214, (one of several priority documents to the instant application), because – although they are not identical – they are not patentably distinct from each other (see paragraph 28, pages 15 to 16, of the OA).

In USPN 6,110,719, claim 6 reads on an animal feed composition comprising a microbial phytase having an amino acid sequence as set forth in SEQ ID NO:2; claim 7 reads on an animal feed composition comprising a microbial phytase encoded by the polynucleotide of SEQ ID NO:1.

Applicants will hold this issue in abeyance until such time claims are held allowable.

USPN 6,110,719 in view of Cheng

Claims 21, 22, 24, 25 and 47 to 49, stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 6 to 7 of U.S. Patent No. (USPN) 6,110,719, in view of Cheng, because – although they are not identical – they are not patentably distinct from each other (see paragraph 29, pages 16 to 18, of the OA).

Applicants will hold this issue in abeyance until such time claims are held allowable.

USSN 10/601,319

Claims 8 to 14, 19 to 31 and 33 to 49, stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 5, 23 to 28, 30, 31 and 40 to 49, of co-pending U.S. Patent Application No. (USSN) 10/601,319 (U.S. patent application publication no. 20040091968), because – although they are not identical – they are not patentably distinct from each other (see paragraph 30, pages 18 to 19, of the OA).

Applicants will hold this issue in abeyance until such time claims are held allowable.

USSN 10/933,115

Claims 8 to 14, 19, 20, 23, 24, 26 to 31 and 33 to 49, stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 1 to 15, of co-pending U.S. Patent Application No. (USSN) 10/933,115 (unpublished), because – although they are not identical – they are not patentably distinct from each other (see paragraph 31, pages 19 to 20, of the OA).

Applicants will hold this issue in abeyance until such time claims are held allowable.

USSN 11/056,354

Claims 8 to 14, 19, 20, 23, 26 to 31 and 33 to 46, stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 88, 89, and 96 to 103, of co-pending U.S. Patent Application No. (USSN) 11/056,354 (unpublished), because – although they are not identical – they are not patentably distinct from each other (see paragraph 32, pages 20 to 21, of the OA).

Applicants will hold this issue in abeyance until such time claims are held allowable.

USSN 11/056,354 in view of Cheng

Claims 21, 22, 24, 25 and 47 to 49, stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 88, 89, and 96 to 103, of co-pending U.S. Patent Application No. (USSN) 11/056,354, in view of Cheng, because – although they are not identical – they are not patentably distinct from each other (see paragraph 33, pages 21 to 22, of the OA).

Applicants will hold this issue in abeyance until such time claims are held allowable.

CONCLUSION

In view of the foregoing amendment and remarks, Applicants respectfully aver that the Examiner can properly withdraw the rejection of the pending claims under 35 U.S.C. §112, first and second paragraphs, 35 U.S.C. §102 and 35 U.S.C. §103. Applicants respectfully submit that all claims pending in this application are in condition for allowance.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 564462001811. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

As noted above, Applicants have requested a telephone conference with the undersigned representative to expedite prosecution of this application. After the Examiner has reviewed the instant response and amendment, please telephone the undersigned at 858 720-5133.

Dated: October 18, 2005

Respectfully submitted,

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